

AMENDMENTS TO THE CLAIMS

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-84. (Cancelled)

85. (Currently Amended) A method for treating an annulus fibrosis having an outer layer, at least one inner layer, and a defect extending through the outer and inner layers, comprising the steps of:

inserting a porous mesh into the defect in the annulus fibrosis, the porous mesh being arranged in a structure having a longitudinal axis, a distal end, a proximal end, and a length between the distal and proximal ends;

advancing the porous mesh distally beyond the outer layer of the annulus fibrosis; and
expanding the porous mesh to a diameter larger than the defect,

wherein the porous mesh expands radially by reducing the length between the distal and proximal ends, ~~and wherein~~ the porous mesh prevents escape of nucleus pulposus through the defect, and the proximal end of the porous mesh is located distally beyond the outer layer of the annulus fibrosis.

86. (Previously Presented) The method of claim 85, wherein the step of inserting the porous mesh into the defect further comprises the steps of inserting an elongate tubular sheath into the defect and advancing the porous mesh through the sheath into and distally beyond the outer layer of the annulus fibrosis.

87. (Previously Presented) The method of claim 86, wherein the step of advancing the porous mesh through the sheath further comprises the step of operating a plunger to push the porous mesh out of the sheath.

88. (Previously Presented) The method of claim 85, wherein the mesh is a self expanding mesh.

89. (Previously Presented) The method of claim 88, wherein the porous mesh has a first elongated shape and a memory of a second radially expanded shape, and wherein the method further comprises the step of straightening the porous mesh for introduction into the defect, whereupon it is released and assumes the second radially expanded shape due to the memory effect.

90. (Previously Presented) The method of claim 85, wherein the porous mesh further comprises a radio-opaque contrast material.

91. (Previously Presented) The method of claim 85, wherein the porous mesh further comprises one or more anchors, and wherein the method further comprises the step of securing the one or more anchors to at least one of the annulus fibrosis and the vertebra.

92. (Cancelled)

93. (Previously Presented) The method of claim 85, wherein the porous mesh is arranged in the shape of a plug.

94. (Previously Presented) The method of claim 85, wherein the porous mesh is arranged in a generally conical shape when expanded.

95. (Previously Presented) The method of claim 94, wherein the conical shape has a convex surface and wherein the convex surface is facing outwardly with respect to the outer layer of the annulus fibrosis.

96. (Previously Presented) The method of claim 94, wherein the conical shape has a convex surface and wherein the convex surface is facing inwardly with respect to the outer layer of the annulus fibrosis.

97. (Previously Presented) The method of claim 85, wherein the porous mesh is titanium.

98. (Previously Presented) The method of claim 85, wherein the porous mesh is expanded within the defect proximal to the nucleus pulposus.

99. (Currently Amended) A method for treating an annulus fibrosis having an outer layer, at least one inner layer, and a defect extending through the outer and inner layers, comprising the steps of:

inserting an implant into the defect in the annulus fibrosis, the implant being arranged in a structure having a longitudinal axis, a distal end, a proximal end, and a length between the distal and proximal ends;

advancing the implant distally beyond the outer layer of the annulus fibrosis; and

expanding the implant to a diameter larger than the defect,

wherein the implant expands radially by reducing the length between the distal and proximal ends, ~~and wherein the implant prevents escape of nucleus pulposus through the defect, and the~~
proximal end of the implant is located distally beyond the outer layer of the annulus fibrosis.

100. (Previously Presented) The method of claim 99, wherein the step of inserting the implant into the defect further comprises the steps of inserting an elongate tubular sheath into the defect and advancing the implant through the sheath into and distally beyond the outer layer of the annulus fibrosis.

101. (Previously Presented) The method of claim 100, wherein the step of advancing the implant through the sheath further comprises the step of operating a plunger to push the implant out of the sheath.

102. (Previously Presented) The method of claim 99, wherein the implant is a porous mesh.

103. (Previously Presented) The method of claim 99, wherein the implant is a self expanding mesh

104. (Previously Presented) The method of claim 103, wherein the mesh has a first elongated shape and a memory of a second radially expanded shape, and wherein the method further comprises the step of straightening the mesh for introduction into the defect, whereupon it is released and assumes the second radially expanded shape due to the memory effect.

105. (Previously Presented) The method of claim 99, wherein the implant further comprises a radio-opaque contrast material.

106. (Previously Presented) The method of claim 99, wherein the implant further comprises one or more anchors, and wherein the method further comprises the step of securing the one or more anchors to at least one of the annulus fibrosis and the vertebra.

107. (Cancelled)

108. (Previously Presented) The method of claim 99, wherein the implant is arranged in the shape of a plug.

109. (Previously Presented) The method of claim 99, wherein the implant is arranged in a generally conical shape when expanded.

110. (Previously Presented) The method of claim 109, wherein the conical shape has a convex surface and wherein the convex surface is facing outwardly with respect to the outer layer of the annulus fibrosis.

111. (Previously Presented) The method of claim 109, wherein the conical shape has a convex surface and wherein the convex surface is facing inwardly with respect to the outer layer of the annulus fibrosis.

112. (Previously Presented) The method of claim 99, wherein the implant is titanium.

113. (Previously Presented) The method of claim 99, wherein the implant is expanded within the defect proximal to the nucleus pulposus.

• 114-152. (Cancelled)